Installation Instructions for IBM 4mm Tape Drive

1.0 Purpose

The purpose of this document is to define the steps required to install the 4mm tape drive in the IBM Model 7025-6F1 server (a.k.a. Portus Firewall).

2.0 Scope

This document can be used by engineering, installation, and maintenance personnel to install the IBM 6158 4mm tape drive in the Portus Firewall. It does not replace training provided by IBM.

3.0 Related Documentation

3.1 IBM Documentation

The following IBM information was used to develop the step-by-step procedures:

1. On-line documentation from IBM's Web Site at http://www.ibm.com
2. 20/40GB 4mm Internal Tape Drive Installation and Using Guide
3. Installation Guide for RS/6000 Enterprise Server Model F80 e-server pSeries 620 Model 6F1

4.0 Fileset Update Procedures

1. Download from the IBM AIX website the updated filesets for the base operating system commands supporting the 4mm tape drive. Type the following commands:

   #**mkdir /tmp/tapefix** ↵
   #**cd /tmp/tapefix** ↵
   #ftp://techsupport.services.ibm.com ↵
   Connected to service.boulder.ibm.com.
   220 service.boulder.ibm.com FTP server (Version wu-2.6.2(1) Mon Dec 3 15:26:19 MST 2001) ready.
   User (service.boulder.ibm.com:(none)): **anonymous**
   331 Guest login ok, send your complete e-mail address as password.
   Password:
   230-Please read the file README
   230- it was last modified on Thu Aug 9 08:15:27 2001 - 697 days ago
   230 Guest login ok, access restrictions apply.
   #ftp>**cd aix/fixes/v4/os/** ↵
   #ftp>**get bos.rte.bosinst.4.3.3.77.bff** ↵
   #ftp>**get bos.rte.install.4.3.3.81.bff** ↵
   #ftp>**get bos.sysmgt.sysbr.4.3.3.86.bff** ↵
   #ftp>**bye** ↵

2. Verify the download into /tmp/tapefix and execute an AIX "sum" command:

   # **sum bos.sysmgt.sysbr.4.3.3.86.bff**
   38099 728 bos.sysmgt.sysbr.4.3.3.86.bff
   # **sum bos.rte.install.4.3.3.81.bff**

29508 1788 bos.rte.install.4.3.3.81.bff
sum bos.rte.bosinst.4.3.3.77.bff
42285   40 bos.rte.bosinst.4.3.3.77.bff

3. Build the .toc file required by the installation program
   # **inutoc .** ↵
4. Use SMIT to perform the software install:
   # **smit**
   The first menu heading will read:
   Software Installation and Maintenance
   Select the heading:
   Install and Update Software
   Select the heading:
   Update from Latest Available Software
   A popup menu is displayed. At the "Input device / directory for software," type in:
   /tmp/tapefix
   Click the **OK** button
   A new popup window will appear. Make the following selections for the appropriate boxes:
   Software to install = click on the **"list"** button, a "Multi-Select List" window will popup. From this window select:
   bos All bos s_all_filesets
   bos.sysmgt All bos.sysmgt_all_filesets

   Then click the **OK** button which will return to the previous window. Continue with the following selections:

   Preview only ? = **no**
   Commit software updates? = **yes**
   Save replaced files ? = **yes**
   Automatically install required software? = **no**
   Extend file systems if needed? = **no**
   Overwrite same or newer versions = **no**
   Verify install and check file sizes = **no**
   Include corresponding Language filesets ? = **yes**
   Detailed output ? = **yes**
   Process multiple volumes ? = **no**

   Click on **OK** to start the install process. Upon a successful completion the running man will raise his hands.

5.0 Installation Procedures for 4mm Tape Drive

1. Log in to the system as root user and shutdown the system
2. Unplug the system unit power cable.

3. Remove the front and right side covers of the system.
4. Use a wrist strap and connect it to an electrical ground or the metal frame of the system to prevent electro-static discharge.
5. Pull the locking knob on the media bay blank cover bracket and remove it by pulling it straight out from the system unit. (The tape drive will use the bracket supporting the blank cover tray).
6. Remove the screws from the side of the blank cover bracket and separate the blank cover from the bracket.
7. Install the tape drive into the bracket securing it with the screws removed earlier or with the screws provided tape drive kit.
8. Set the SCSI address jumpers at the rear of the drive to five (see page 12 of the "20/40GB 4mm Internal Tape Drive Installation and Using Guide" for jumper pin configurations).
9. Look into the media bay from right side of the system and locate the SCSI and power cables near the top inner wall.
10. Insert the tape drive mounted on the bracket into front the system and connect the SCSI and power cables.
11. Ensure that the locking knobs on the bracket are pulled to the out position and slide the bracket into the media bay until the locking knobs contact the frame of the system.
12. Push on each locking knob until you feel it lock into position.
13. Replace the front and right side covers of the system
14. Reconnect the power cable and boot the system.

6.0 Testing 4mm Tape Drive

1. Insert a 20/40 GB 4mm tape into the tape drive
2. Log in to the system and start SMIT:
   # **smit**
3. Set the data compression option; the factory default setting has data compression turned ON. To turn data compression OFF make the following selections with SMIT:
   Select the menu heading:
   DEVICES
   Select heading:
   Tape Drive
   Select heading:
   Change / Show Characteristics of a Tape Drive
   A popup window will appear select:
   rmt0 Available…….
   A new window will appear. Scroll down to bottom of window and change "Use Data Compression" to **NO.**
4. To perform a backup by file / directory make the following selections with SMIT:
   Select the menu heading:

System Storage Management (Physical & Logical Storage)

Select heading:

Files and Directories

Select heading:

Backup a File or Directory

A new popup window will appear. Make the following selections for the appropriate boxes:

Backup Device = **/dev/rmt0**
File or Directory to backup = **. *(period)***
Current working Directory (Path) = **/ *(root)***
Backup Local files only? = **yes**
Verbose output? = **no**
Pack files? = **no**

Click on **OK** to start the backup process.

5. To create a bootable tape image of the system make the following selections with SMIT:

Select the menu heading:

System Storage Management (Physical & Logical Storage)

Select heading:

System Backup Manager

Select heading:

Backup the System

Select heading:

Backup This System to Tape / File

A new popup window will appear. Make the following selections for the appropriate boxes:

Backup Device = **/dev/rmt0**
Create Map Files? = **no**
Exclude Files = **no**
List files as they are backed up = **no**
Generate new /image.data file = **yes**
Expand /tmp if needed = **no**
Disable Software packing of backups = **yes**

Click on **OK** to start the backup process.

You will receive a message similar to the one below upon a successful completion:

backup: The date of this level 0 backup is Tue Apr 8 13:47:37 EDT 2003.
backup: The date of the last level 0 backup is the epoch.
backup: Backing up /dev/rhd4 (/) to /dev/rmt0.
backup: 0511-251 The file system is still mounted; data may not be consistent. Use the umount command to unmount the filesystem; then do the backup.
backup: Mapping regular files. This is Pass 1.
backup: Mapping directories. This is Pass 2.

backup: There are an estimated 15227 1k blocks.
backup: Backing up directories. This is Pass 3.
backup: Backing up regular files. This is Pass 4.
backup: There are 15964 1k blocks on 1 volumes.
backup: The tape is rewinding.
backup: The backup is complete.^G^G

7.0 Adding 4mm Tape Drive to the "bootlist"

1. Display the current list of possible bootable devices type:
   # bootlist –m normal –o
   You should receive a response similar this below:
   hdisk0
   hdisk1
2. Add the tape the drive to the bootlist type:
   # bootlist –m normal hdisk0 hdisk1 cd0 rmt0
   # bootlist –m service hdisk0 hdisk1 cd0 rmt0
   NOTE: the arrangement of the entries of devices is important because this will be the order of selection for the boot process.
3. Verify that the order of entries:
   # bootlist –m normal –o
   # bootlist –m service –o
   You should receive a response similar to this below:
   hdisk0
   hdisk1
   cd0
   rmt0